

IN THE CLAIMS

Please amend the claims as follows:

1-16. (Cancelled)

17. (Previously Presented) A diagnostic X-ray system, comprising:

an X-ray generating unit that performs a first X-ray radiation in a fluoroscopy mode to determine an imaging position, and a second X-ray radiation in an imaging mode to acquire a diagnosis image, according to predetermined respective X-ray loading factors;

an X-ray beam limiting unit that limits a radiation region of the X-ray through beam limiting;

an image generating unit that generates an image based on the X-ray passing through a subject;

a region set unit that sets a first region in the image in the case of moving to the fluoroscopy mode, and sets a second region broader than the first region in the image in the case of moving to the imaging mode;

a region transform unit that transforms the first region to exclude the radiation region corresponding to the beam limiting when the first region includes the region corresponding to the beam limiting, and transforms the second region to exclude the region corresponding to the beam limiting when the second region includes the region corresponding to the beam limiting;

a brightness computing unit that computes a brightness value within the transformed first region or within the transformed second region when the first region or the second region is transformed by the region transform unit, and computes a brightness value within the first region or within the second region set by the region set unit when the first region or the second region is not transformed by the region transform unit; and

a controller that determines the X-ray loading factor related to the first X-ray radiation or the second X-ray radiation on the basis of the brightness value, and performs feedback control of the X-ray generating unit on the basis of the X-ray loading factor.

18. (Previously Presented) The diagnostic X-ray system according to claim 17, wherein:

in the imaging mode, the X-ray generating unit performs the first X-ray radiation with an X-ray intensity lower than that of the second X-ray radiation, the region set unit sets the second region in the image, and the controller determines the X-ray loading factor related to the second X-ray radiation, based on the brightness value within the transformed second region corresponding to the first X-ray radiation or the brightness value within the second region set by the region set unit.

19. (Previously Presented) The diagnostic X-ray system according to claim 17, wherein:

the first region and the second region are of a shape and a size corresponding to a region to be diagnosed.

20. (Previously Presented) The diagnostic X-ray system according to claim 17, wherein:

brightness computation related to the first region or the second region performed by said brightness computing unit and the feedback control of an X-ray loading factor performed by said controller based on the first region or the second region are performed in real time in association with a beam limiting manipulation by said beam limiting unit.

21. (Previously Presented) The diagnostic X-ray system according to claim 17,
wherein:

brightness computation related to the first region or the second region performed by
said brightness computing unit and the feedback control of an X-ray loading factor performed
by said controller based on the first region or the second region are performed in real time in
association with a beam limiting manipulation by said beam limiting unit.

22. (New) A diagnostic X-ray system, comprising:

an X-ray generating unit that performs a first X-ray radiation in a fluoroscopy mode to
determine an imaging position, and a second X-ray radiation in an radiography mode to
acquire a diagnosis image, according to predetermined respective X-ray loading factors;

an X-ray beam limiting unit that limits a radiation region of the X-ray through beam
limiting;

an image generating unit that generates an image based on the X-ray passing through
a subject;

a region set unit that sets a first region in the image in the case of moving to the
fluoroscopy mode, and sets a second region broader than the first region in the image in the
case of moving to the radiography mode;

a region transform unit that transforms the first region to exclude the radiation region
corresponding to the beam limiting when the first region includes the region corresponding to
the beam limiting, and transforms the second region to exclude the region corresponding to
the beam limiting when the second region includes the region corresponding to the beam
limiting;

a brightness computing unit that computes a brightness value within the transformed
first region or within the transformed second region when the first region or the second

region is transformed by the region transform unit, and computes a brightness value within the first region or within the second region set by the region set unit when the first region or the second region is not transformed by the region transform unit; and

a controller that determines the X-ray loading factor related to the first X-ray radiation or the second X-ray radiation on the basis of the brightness value, and performs feedback control of the X-ray generating unit on the basis of the X-ray loading factor.

23. (New) The diagnostic X-ray system according to claim 22, wherein:

in the radiography mode, the X-ray generating unit performs the first X-ray radiation with an X-ray intensity lower than that of the second X-ray radiation, the region set unit sets the second region in the image, and the controller determines the X-ray loading factor related to the second X-ray radiation, based on the brightness value within the transformed second region corresponding to the first X-ray radiation or the brightness value within the second region set by the region set unit.

24. (New) The diagnostic X-ray system according to claim 22, wherein:

the first region and the second region are of a shape and a size corresponding to a region to be diagnosed.

25. (New) The diagnostic X-ray system according to claim 22, wherein:

brightness computation related to the first region or the second region performed by said brightness computing unit and the feedback control of an X-ray loading factor performed by said controller based on the first region or the second region are performed in real time in association with a beam limiting manipulation by said beam limiting unit.

26. (New) The diagnostic X-ray system according to claim 22, wherein:

brightness computation related to the first region or the second region performed by said brightness computing unit and the feedback control of an X-ray loading factor performed by said controller based on the first region or the second region are performed in real time in association with a beam limiting manipulation by said beam limiting unit.